

REMARKS

Reconsideration of the present application is requested.

The present invention relates to a tire tread configured to maximize gripping on road surfaces, especially slippery road surfaces. The disclosed preferred tire tread comprises elements in relief 1, each provided with a running face and at least two lateral faces. (Note: in the event that the elements constitute circumferentially spaced blocks, the blocks would have two lateral faces extending circumferentially and two lateral faces extending transversely of the circumferential direction, whereas if the elements constitute continuous circumferential ribs, then each rib would have only two lateral faces.) Each element includes an incision 4 which intersects the running face 2 of the tread from one end of the incision to the other when the tread is new. The incision is defined along a mean plane. At least two holes 6 pass through the element substantially parallel to the mean plane. Opposite ends of each of the holes open onto respective lateral faces of the element. Two of the holes are situated on the same side of the mean plane, and all of the holes are spaced from the incision.

That configuration, which is defined by amended claim 1, enables road-gripping incisions to be employed without making the tire overly susceptible to shear. That is, the portion of the tread which engages the ground at any given instant, and which is thus subjected to a compressive force 9, can be more easily deformed by that force (due to the presence of the holes 6), to enable the sides of the incision to engage (press against) one another and thus effectively resist lateral loads. Shearing of the element is thus opposed, and the contact area (and the grip)

between the tread and the ground is optimized. The applied references do not disclose that claimed feature.

As regards EP 1125709, Fig. 17 therein depicts the use of blades to form sipes. But those sipes do not intersect the running face from one sipe end to the other as does the incision recited in claim 1. Accordingly, it will be appreciated that EP '709 discloses a markedly different type of tread from that presently claimed.

Japanese document 09-164817 discloses a tire tread element having sub-sipes 3 which do not open onto two lateral faces of the element as recited in claim 1. Thus, the element of JP '817 does not exhibit the same degree of flexibility as the presently claimed element.

Claim 1 also stands rejected as obvious over JP 07-081316 in view of Yamaguchi et al. and Fujino et al., or EP '709. Japan '316 discloses holes 22 which can be arranged in the circumferential direction, or in the axial direction. There are no incisions in the tread of '316. It is contended that the provision of incisions would have been obvious in light of the disclosure of sipes in Yamaguchi et al. or Fujino et al. However, it is not seen that there exists any motivation for combining the holes of JP '316 with sipes. JP '316 discloses to provide "many" holes, and the many holes are arranged in a very close random pattern throughout the tread. It would be very difficult, if not impossible, to form sipes which do not cut through the holes, regardless of whether the holes were arranged axially or circumferentially. In contrast, all of the holes of the presently claimed invention are spaced from the incisions.

Furthermore, an artisan would be concerned about forming too many recesses (holes plus sipes) in a tread for fear of making the tread too flexible, whereby the elements would be more susceptible to being tipped over as the result of shear caused by driving torque or breaking torque. That is, there is no recognition by the cited references of the benefits of the presently claimed invention, namely, that the gripping action of the incisions can be obtained while effectively resisting shear through the provision of holes which facilitate the ability of the sides of the incisions to be pressed together for enhanced tread rigidity.

Lastly, it is noted that the disclosures of Yamaguchi et al. and Fujino et al. are directed to a tread formed of foamed rubber, with sipes formed in the foamed rubber. There is no suggestion in either reference that the sipes should be formed in a non-foam tread material such as that disclosed in JP '316.

Furthermore, regarding new dependent claim 15, although JP '316 discloses that the holes could be axial, there is no disclosure in JP '316 which would lead to the conclusion that such axial holes would open onto two lateral faces of the element as presently claimed. The circumferential holes that are depicted in JP '316 are endless and do not open onto any surface. JP '316 discloses no open-ended holes at all, and it is not seen that there exists any motivation from the secondary references for configuring the holes to open onto multiple surfaces.

In sum, it is submitted that there is insufficient motivation from the references to arrive at the tire tread defined by claim 1, and allowance of the application is respectfully requested.

Respectfully submitted,

BUCHANAN INGERSOLL PC

By: 

Alan E. Kopecki
Registration No. 25,813

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P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620